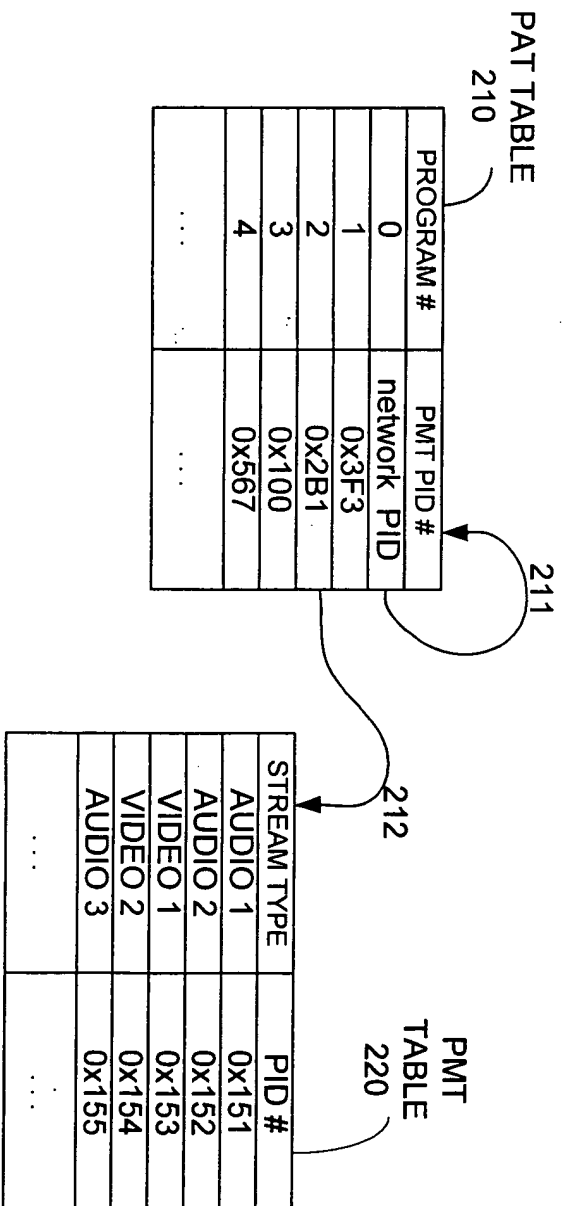


--PRIOR ART--

FIGURE 1

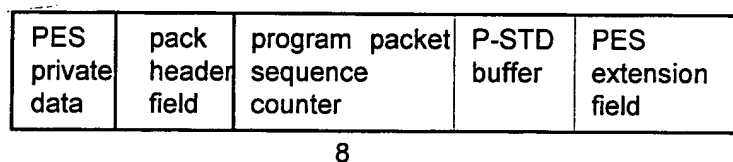
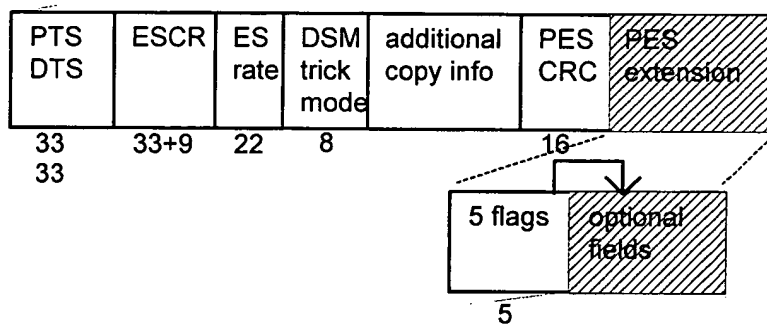
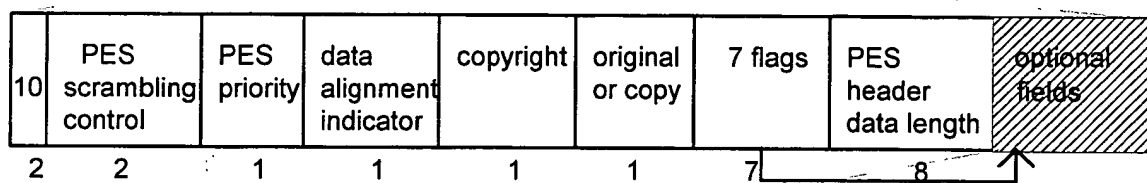
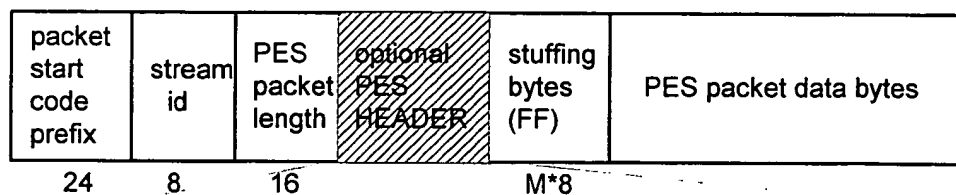
FIGURE 1



--PRIOR ART--

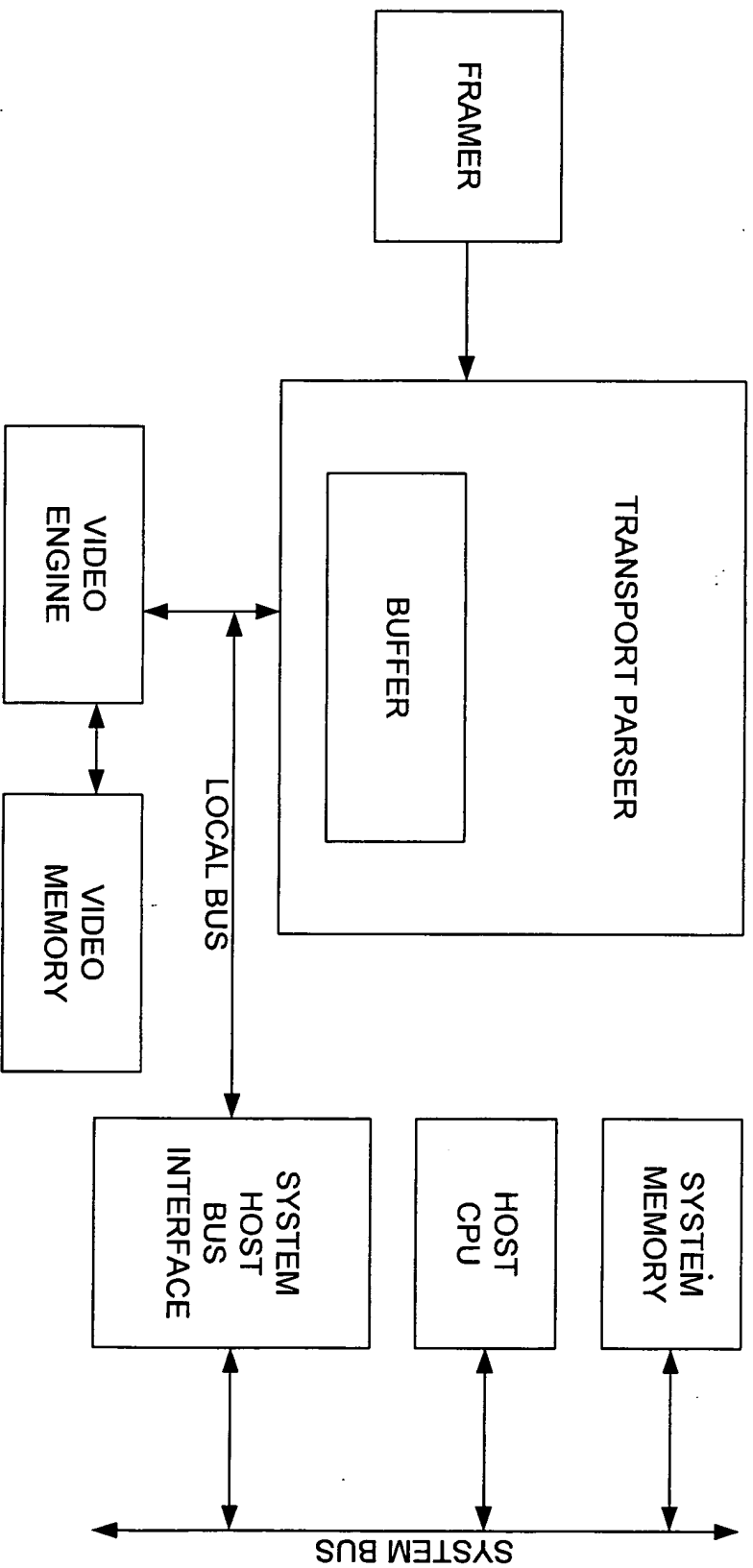
FIGURE 2

FIGURE 2



--PRIOR ART--

FIGURE 3



-- PRIOR ART --
FIGURE 4

FIGURE 4

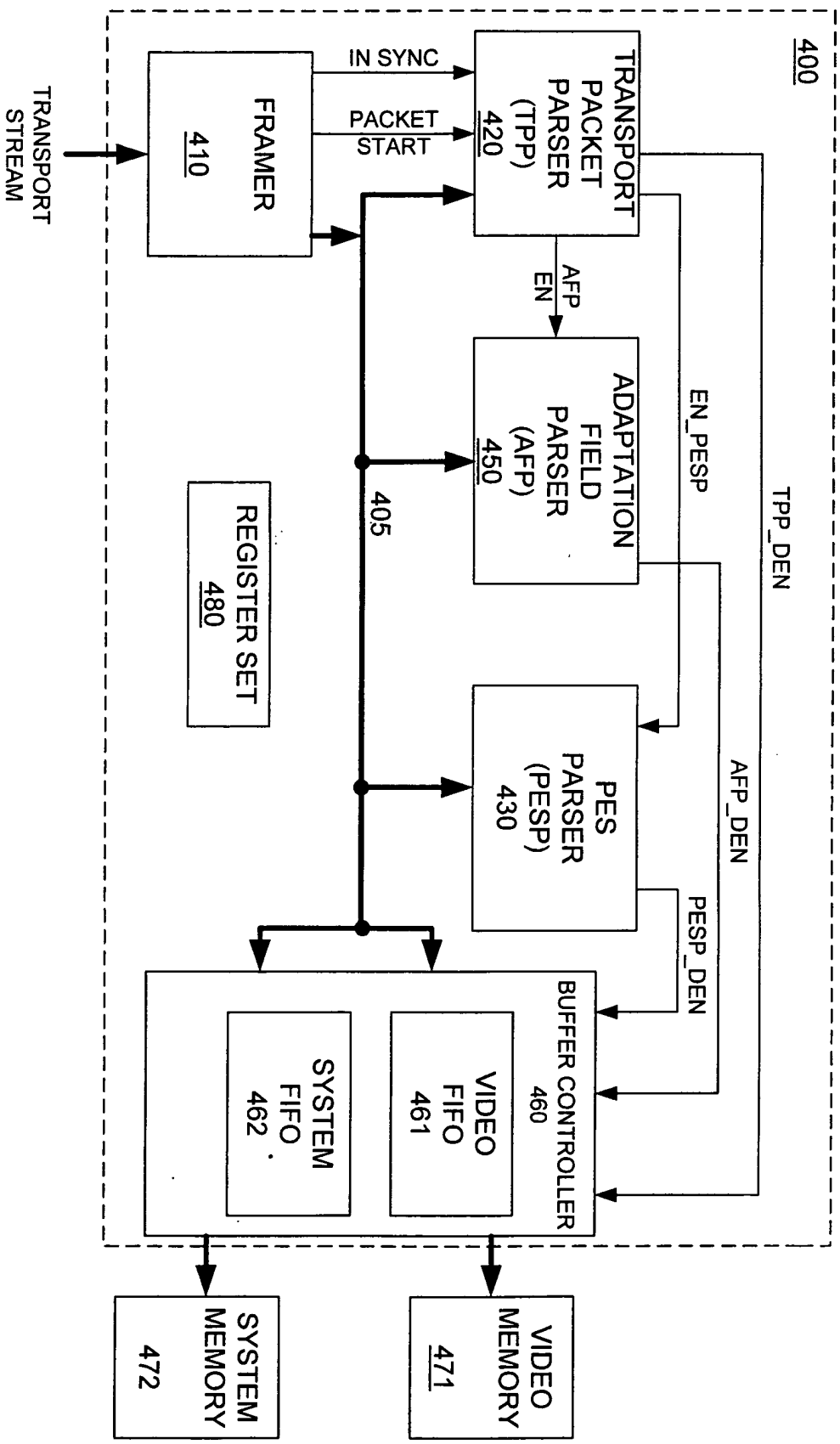


FIGURE 5

FIGURE 5 is a block diagram of a video processing system 400.

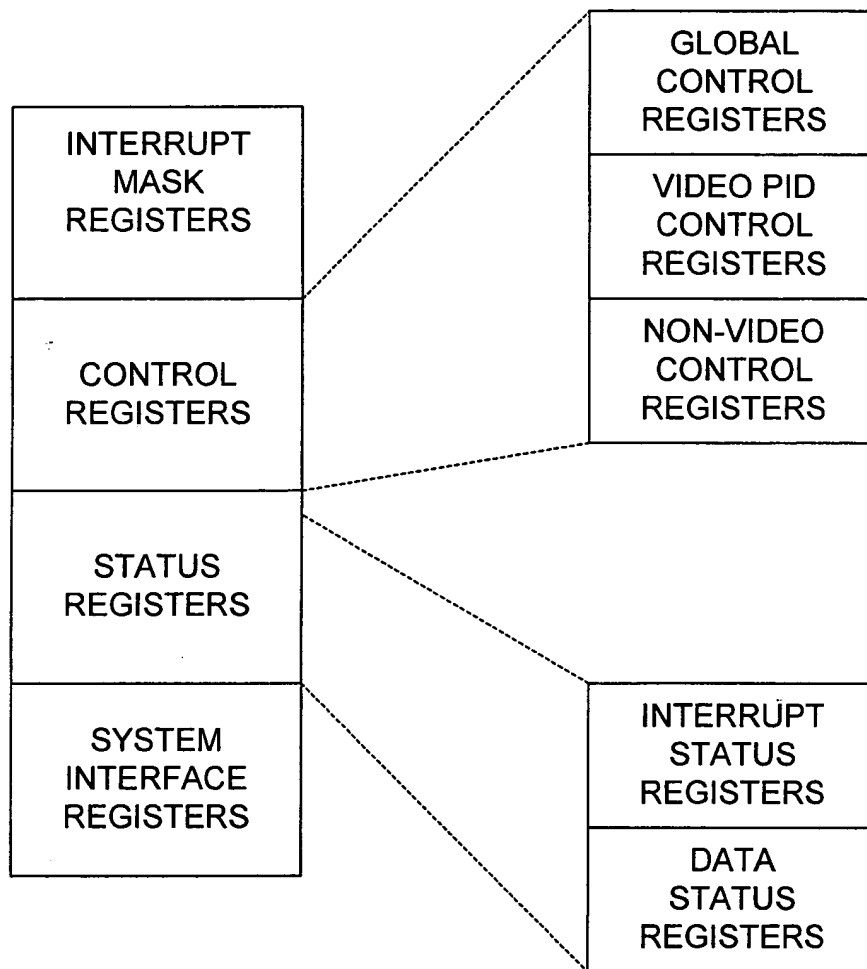


FIGURE 6

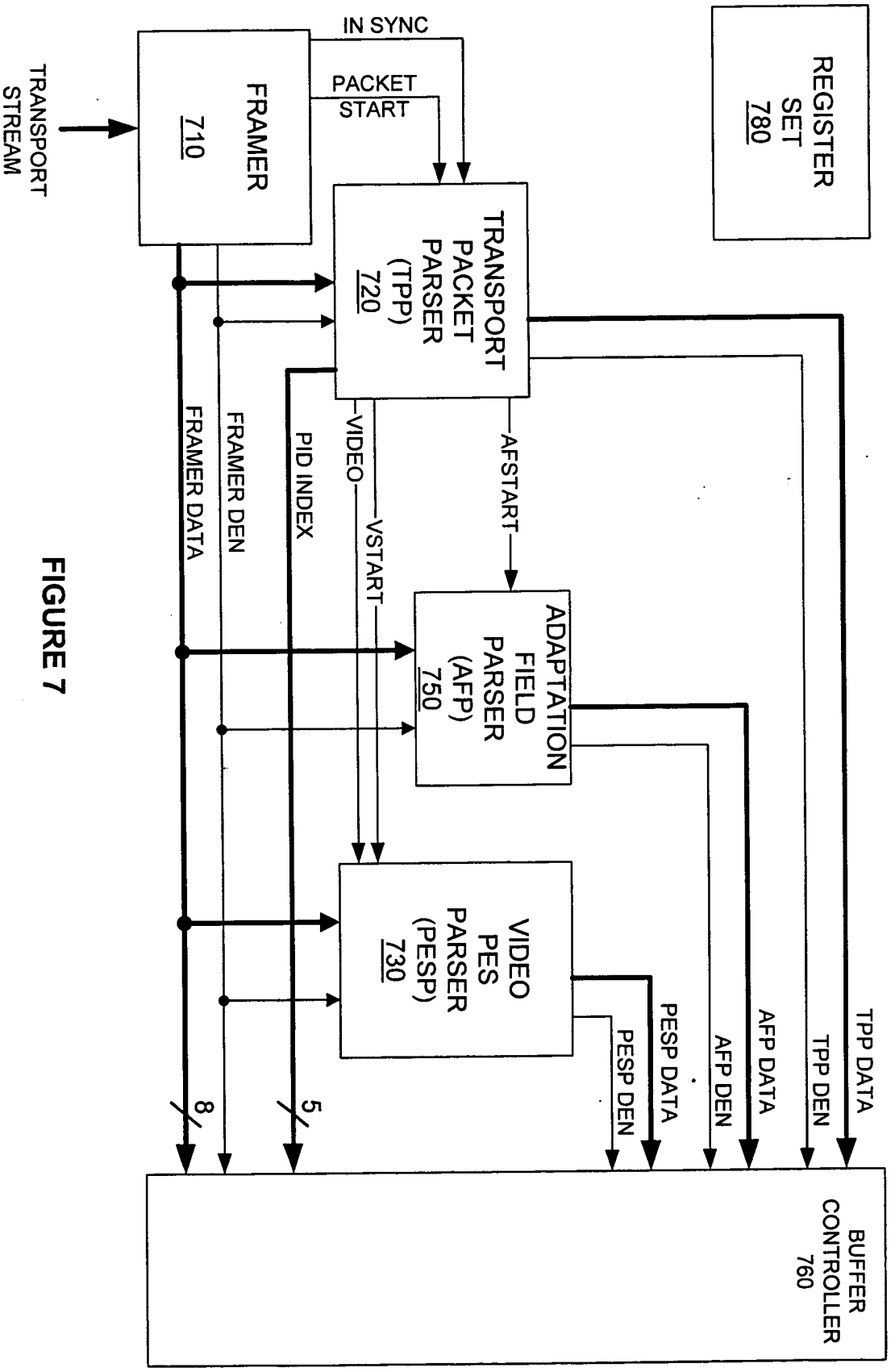


FIGURE 7

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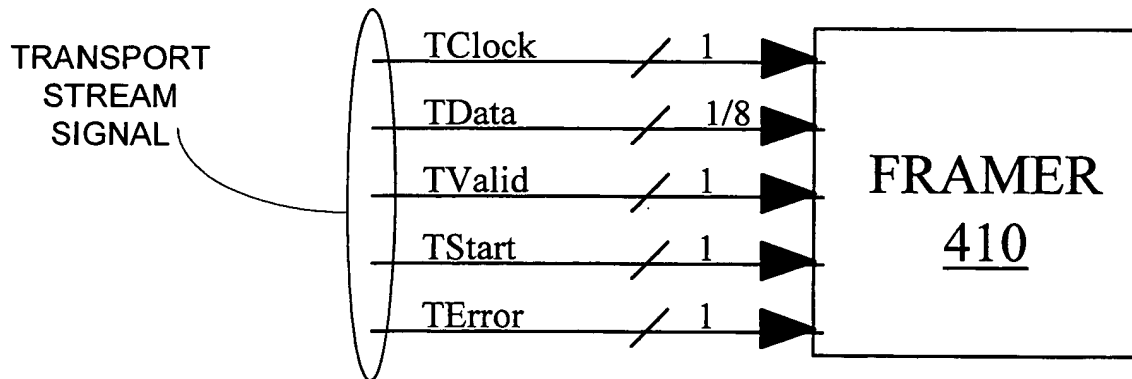


FIGURE 8

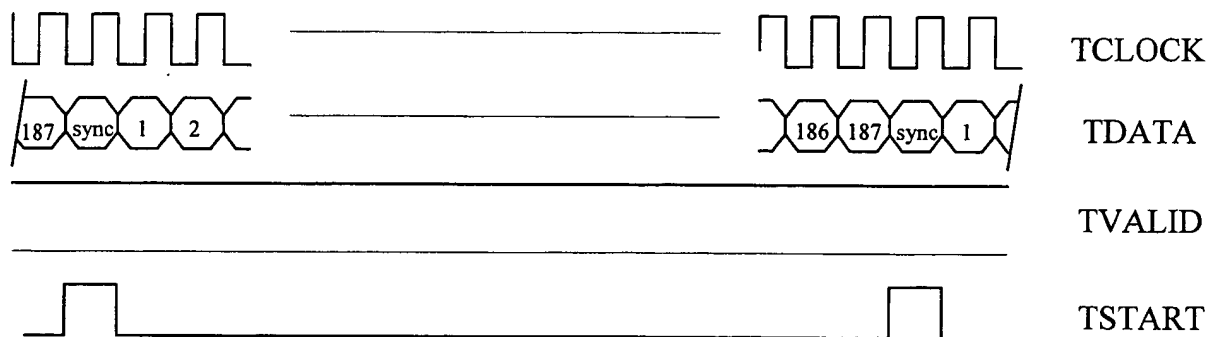


FIGURE 9

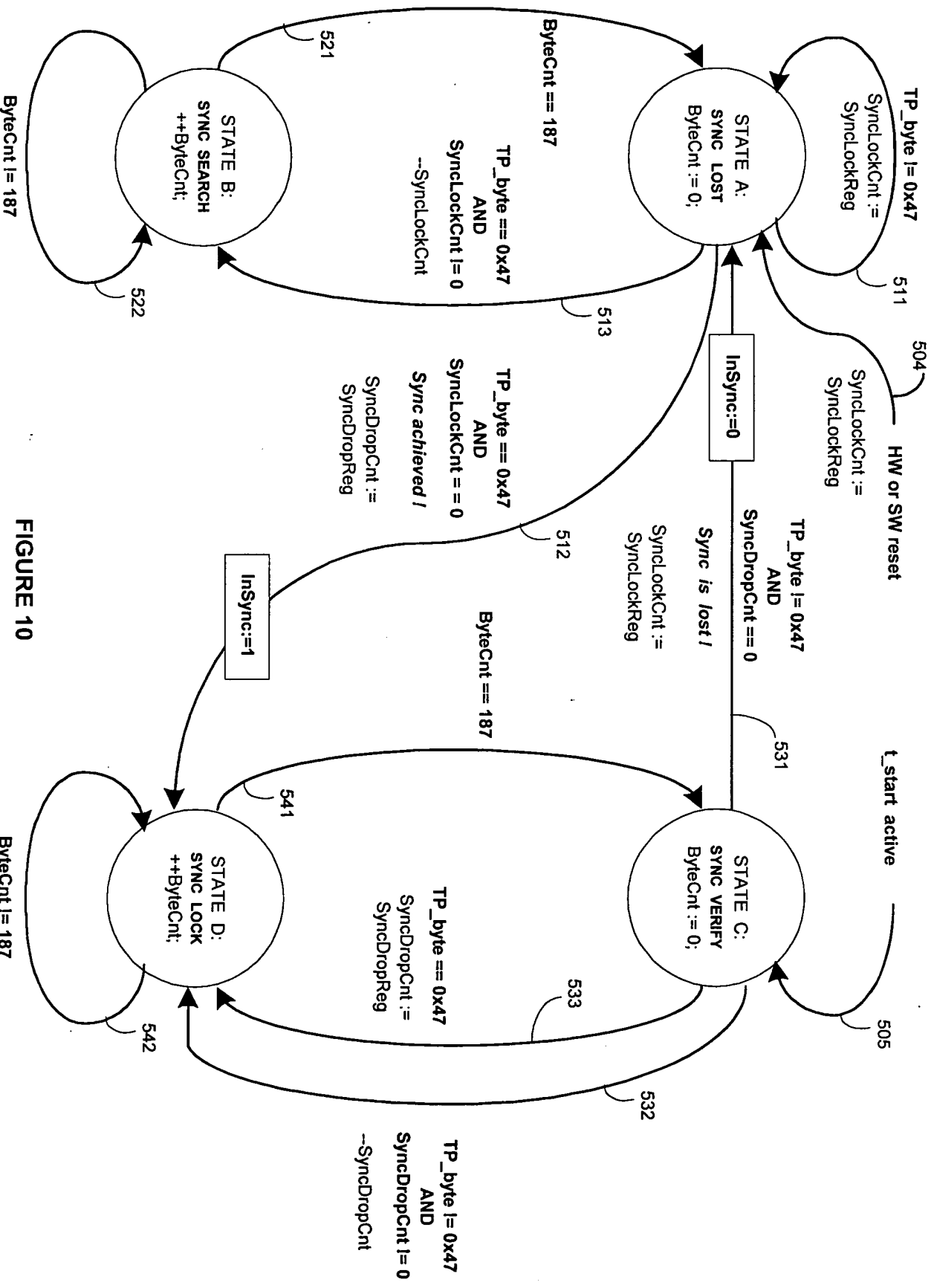


FIGURE 10

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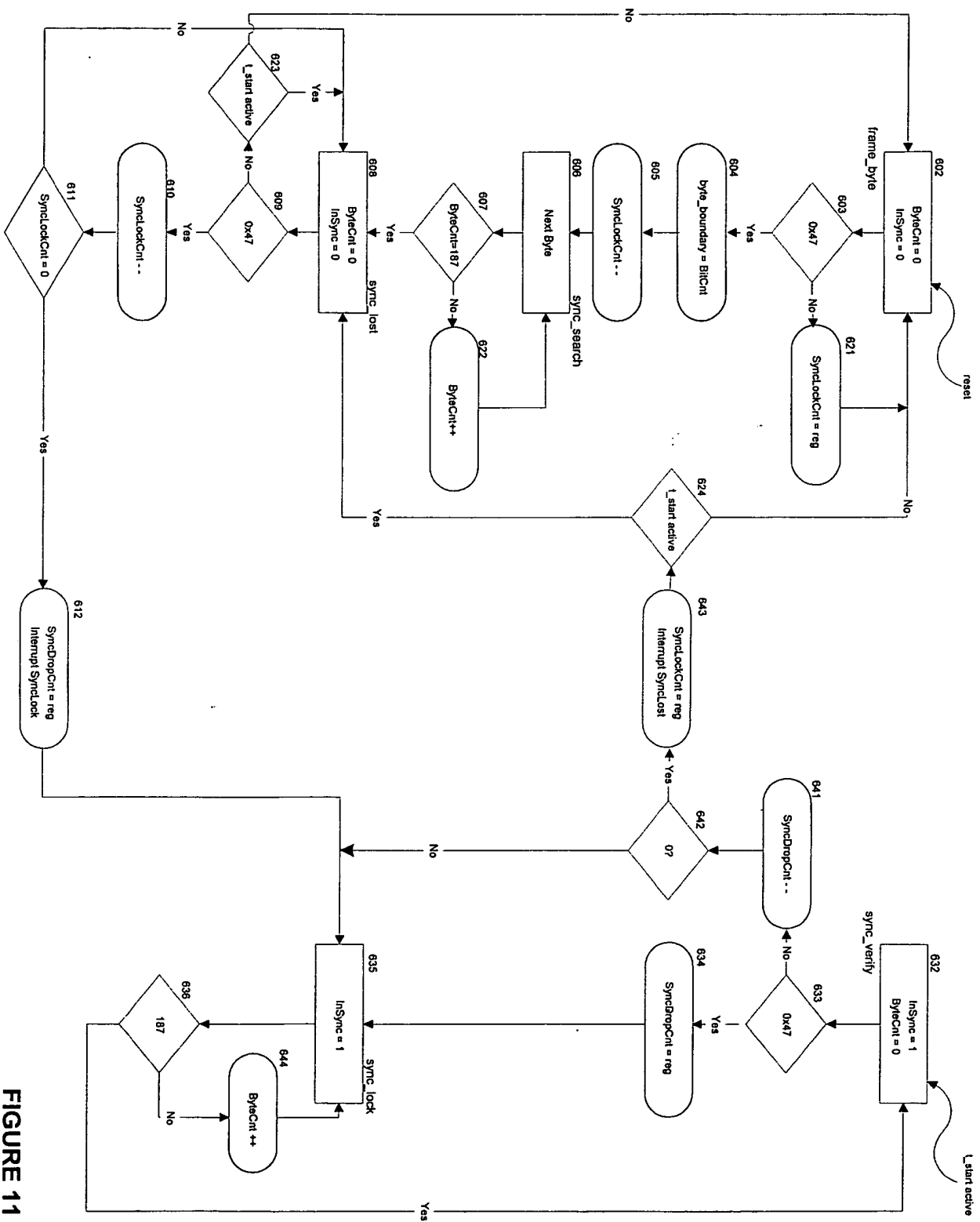


FIGURE 11

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
FramerSyncLock	0	[1]	0	R/W	This bit is set to '1' after the frame synchronization has been acquired. WR_ACC_CLEAR.
FramerSyncDrop	1	[1]	0	R/W	This bit is set to '1' after the frame synchronization has been lost. WR_ACC_CLEAR.
CurrentFramerState	20-22	[3]	'000'	R	<p>This 3 bit field codes the current state of the framer:</p> <p>'000' – Capturing a byte '001' – Out of TP frame synchronization '010' – Searching for synchronization '011' – Checking for synchronization '100' – In the TP frame synchronization</p> <p>NOTE: Only a framer state machine updates this field. Write access does not modify it.</p>
UnusedField	29-31	[3]	'000'	R/W	Unused and reserved field.

FIGURE 12

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	If set to '1' enables local sources of interrupts. Bit 0 – FramerSyncLock Bit 1 – FramerSyncDrop Bits 2 – 19 Other Functionality
EnableGlobalDemuxInterrupt	20	[1]	0	R/W	If set to '1' enables globally TD core interrupts.
UnusedField	21-31	[11]	0	R/W	Unused and reserved field. Always set to 0.

FIGURE 13

Transport Demultiplexer Global Control Register					
Field Name	Bits	Len	Default	Type	Description
FramerSyncLockLength	0-4	[5]	00101	R/W	Five bits field to select a number of consecutive transport packets after MPEG-2 frame (bit-stream) synchronization is declared.
FramerSyncDropLength	5-7	[3]	011	R/W	Three bits field to select a number of consecutive transport packets after a loss of MPEG-2 frame synchronization is declared.
FramerBitPolarity	8	[1]	0	R/W	'0' selects msb first (default mode), '1' select lsb first
FramerClockPolarity	9	[1]	0	R/W	If set to '0' framer will latch on falling edge (default) If set to '1' framer will latch on rising edge.
FramerMode:	10-11	[2]	'00'	R/W	Defines a combination of external control signals: '00' – Framer uses T_start only. '01' – Framer uses T_valid only. '10' – Framer uses T_start and T_valid. '11' – Framer uses T_clock and T_data only.
Other Functionality Bits	12-15	[4]			Other functionality (not relevant to Framer)
T_ValidPolarity	16	[1]	1	R/W	'1' selects active high [5V] for t_valid external signal
T_StartPolarity	17	[1]	1	R/W	'1' selects active high [5V] for t_start external signal
T_ErrorPolarity	18	[1]	1	R/W	'1' selects active high [5V] for t_error external signal
Other Functionality Bits	19-28	[10]			Other functionality (not relevant to Framer)
UnusedField	29-31	[3]	0	R/W	Unused and reserved field. Always set to 0.

FIGURE 14

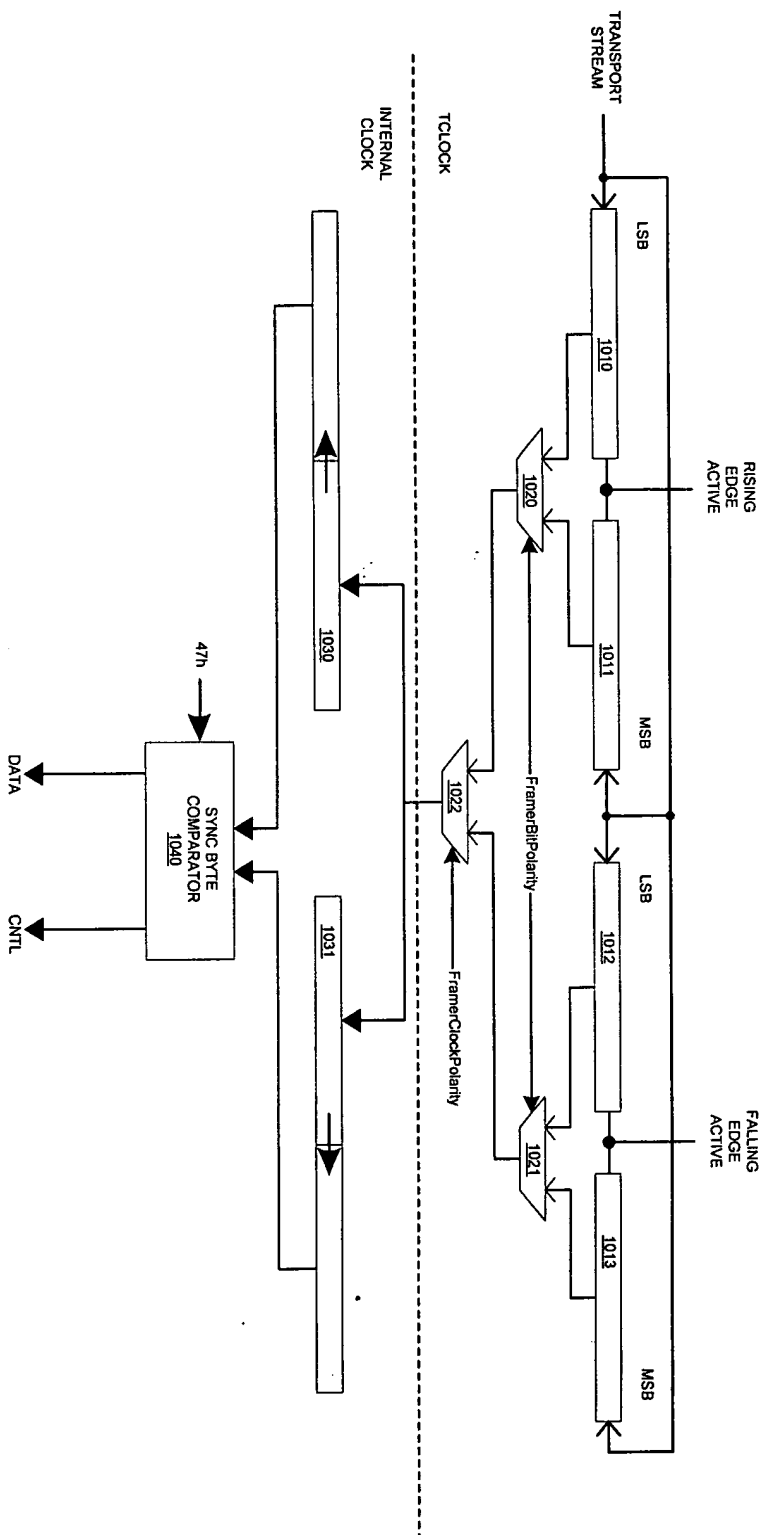


FIGURE 15

720

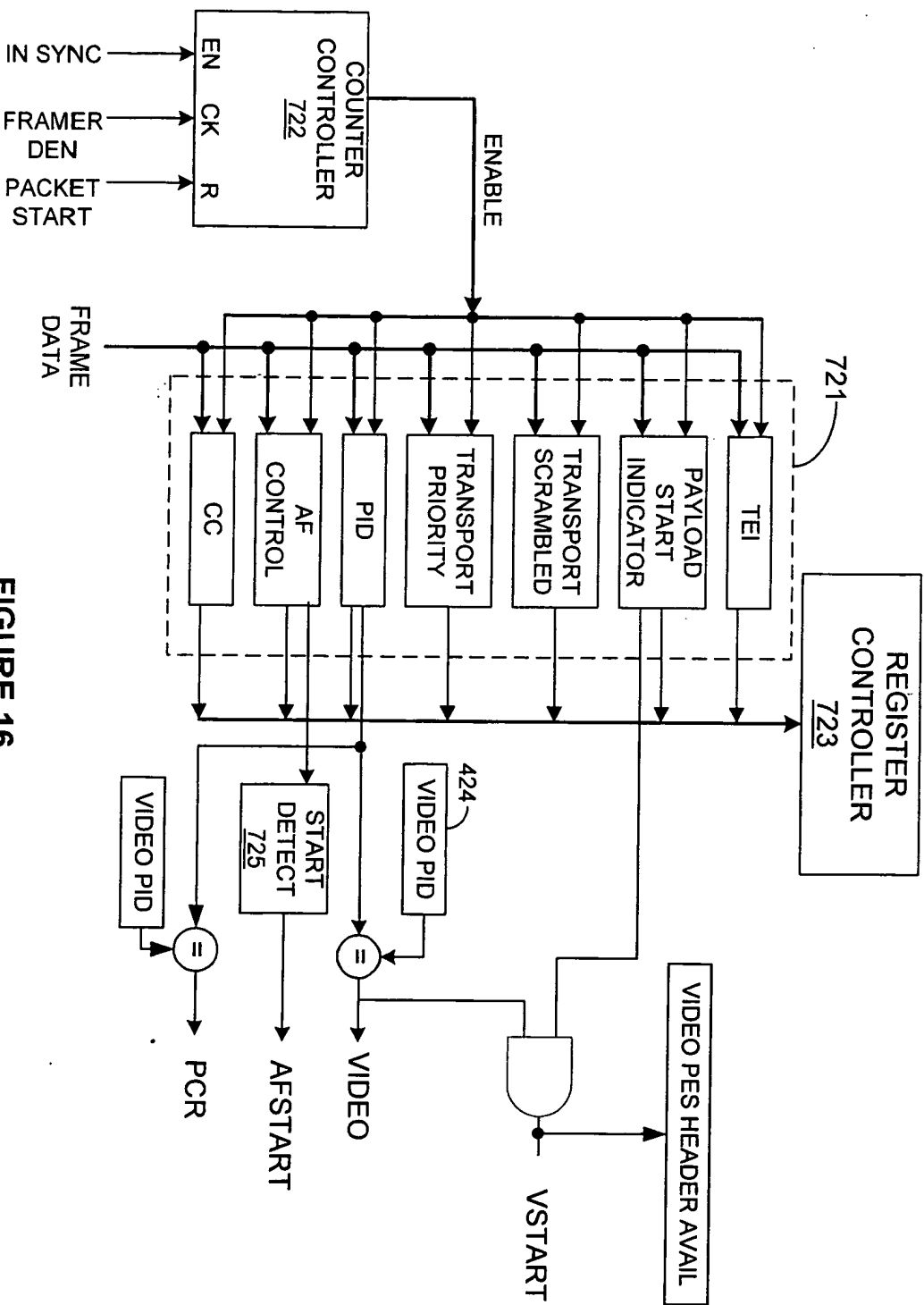


FIGURE 16

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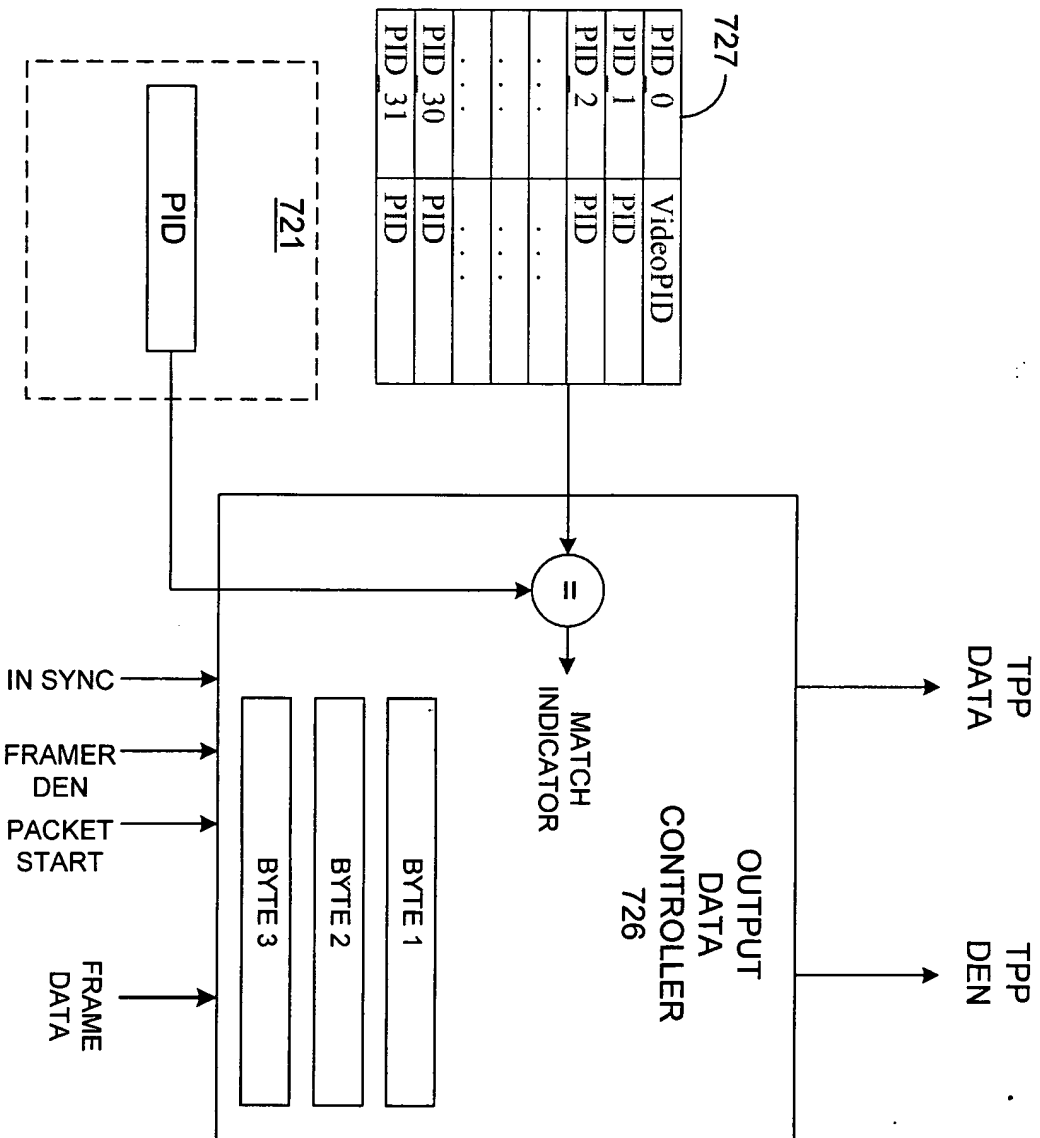


FIGURE 17

Video Control Registers					
Field Name	Bits	Len	Default	Type	Description
VideoPid	0 -12	[13]	0x1FFF	R/W	Selects a specific PID of the video component stream to filter on. Value of 4095 is reserved one (it means a NULL transport packets).
EnableParsing	13	[1]	0	R/W	If '1' enables parsing from the next transport packet.
StartFromPUSICommand	14	[1]	0	R/W	'0' enables PES parsing immediately. '1' enables PES parsing a transport packet from new PES packet. After that, this bit auto-returns to 0.
ProcessStreamID	15	[1]	0	R/W	If '1' enables parsing on specific stream_id field.
StreamID	16-23	[8]	0xE0	R/W	stream_id of the ES stream to filter on in the PESP.

FIGURE 18

Transport Demultiplexer Registers						
Field Name		Bits	Len	Default	Type	Description
PID_yz, 0 ≤ yz ≤ 30		0-12	[13]	0x1FFF	R/W	Selects a specific PID of the component stream to filter on. Value of 0x1FFF is reserved (it means a NULL transport packets).
EnableParsing		13	[1]	0	R/W	If set to '1' extraction of defined PID_yz is enabled.
BufferIndex		14-17	[4]	0	R/W	Specifies 1 of 16 destination buffers in the sys. mem.

FIGURE 19

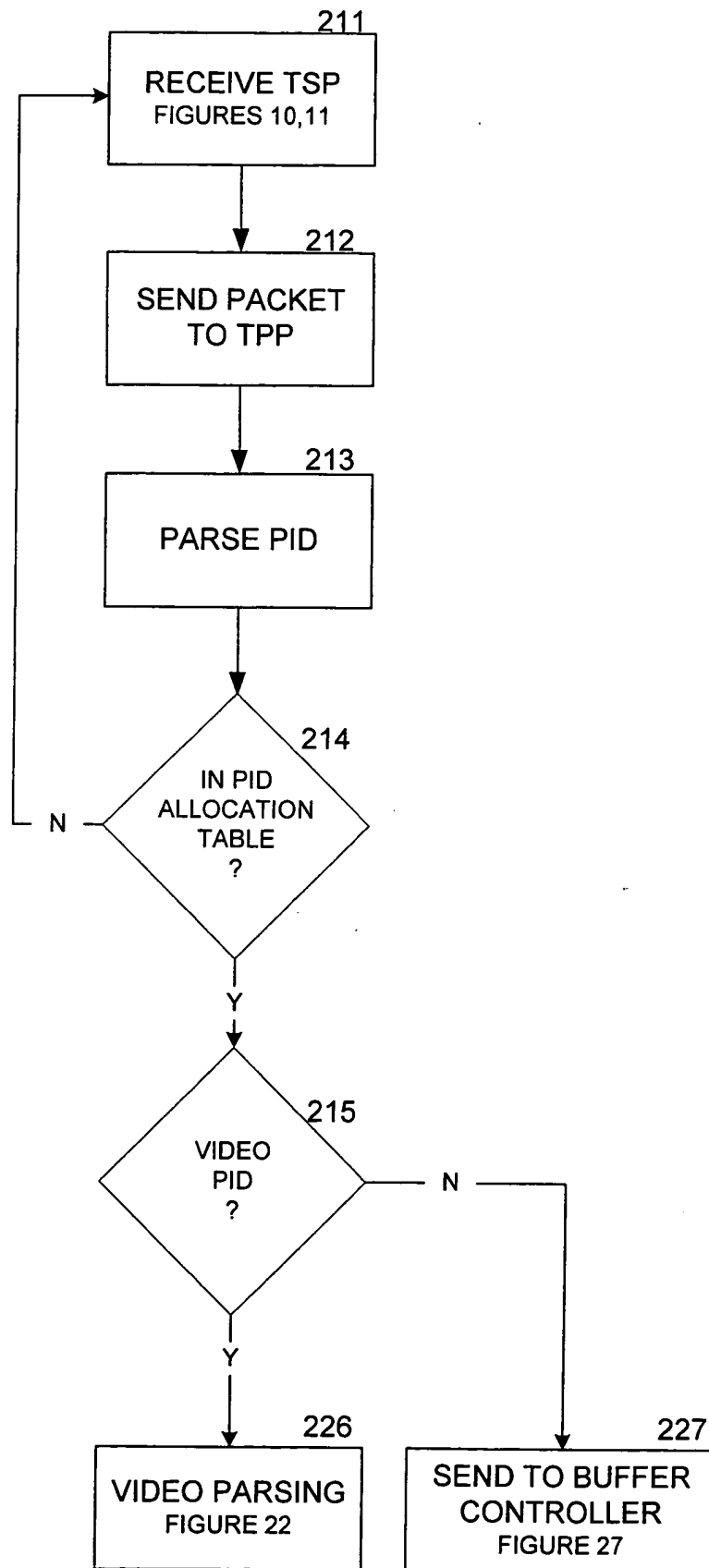


FIGURE 20

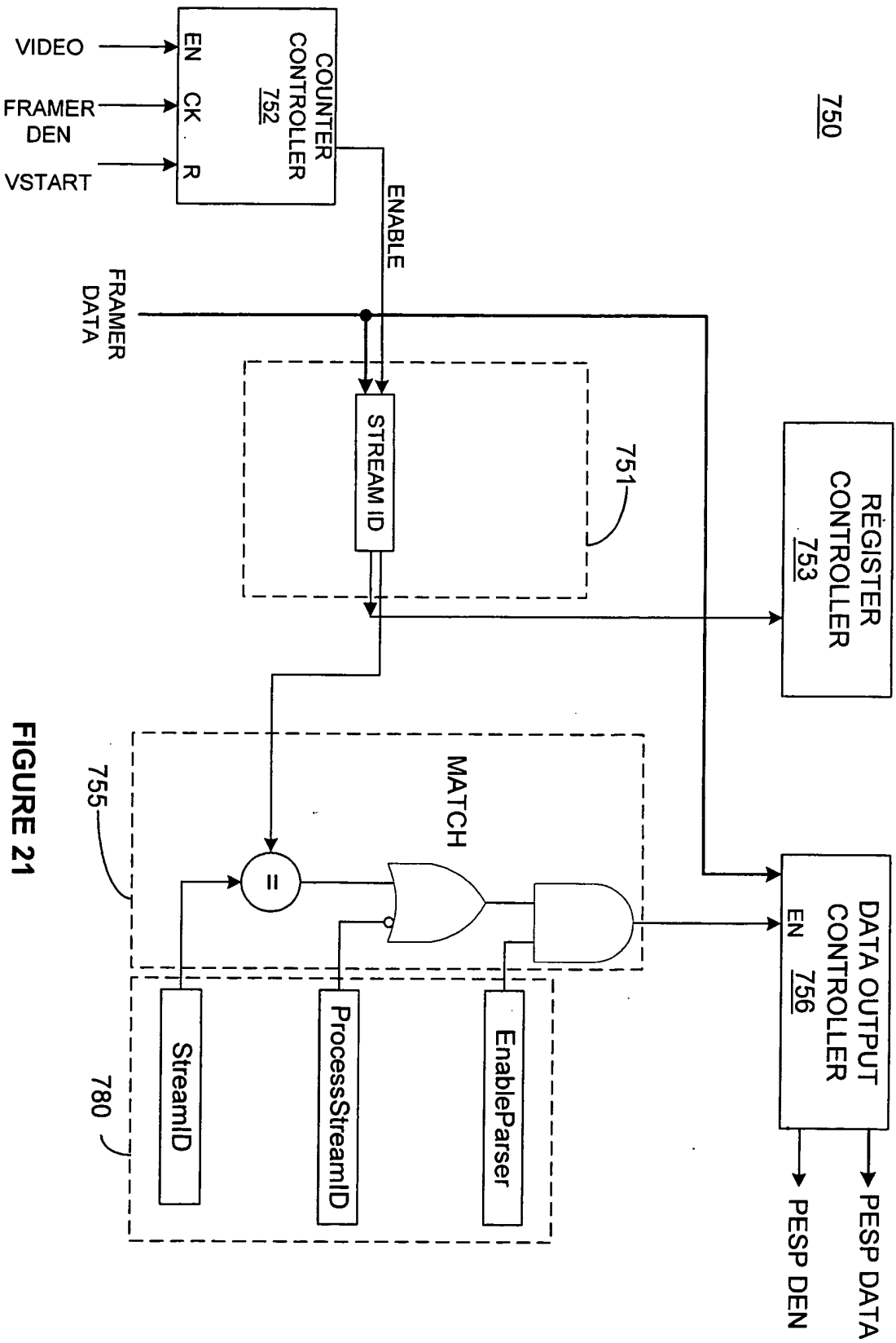


FIGURE 21

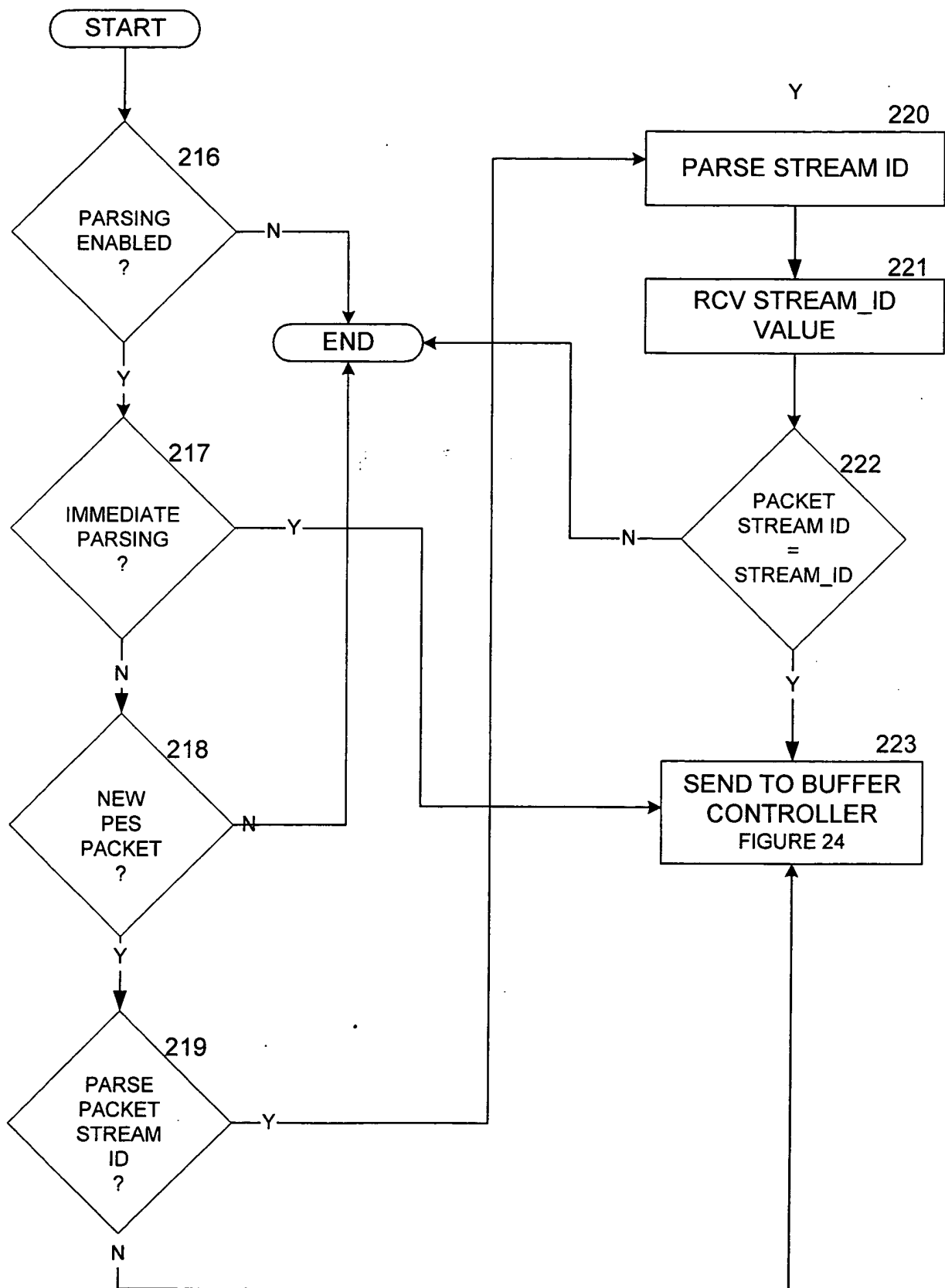


FIGURE 22

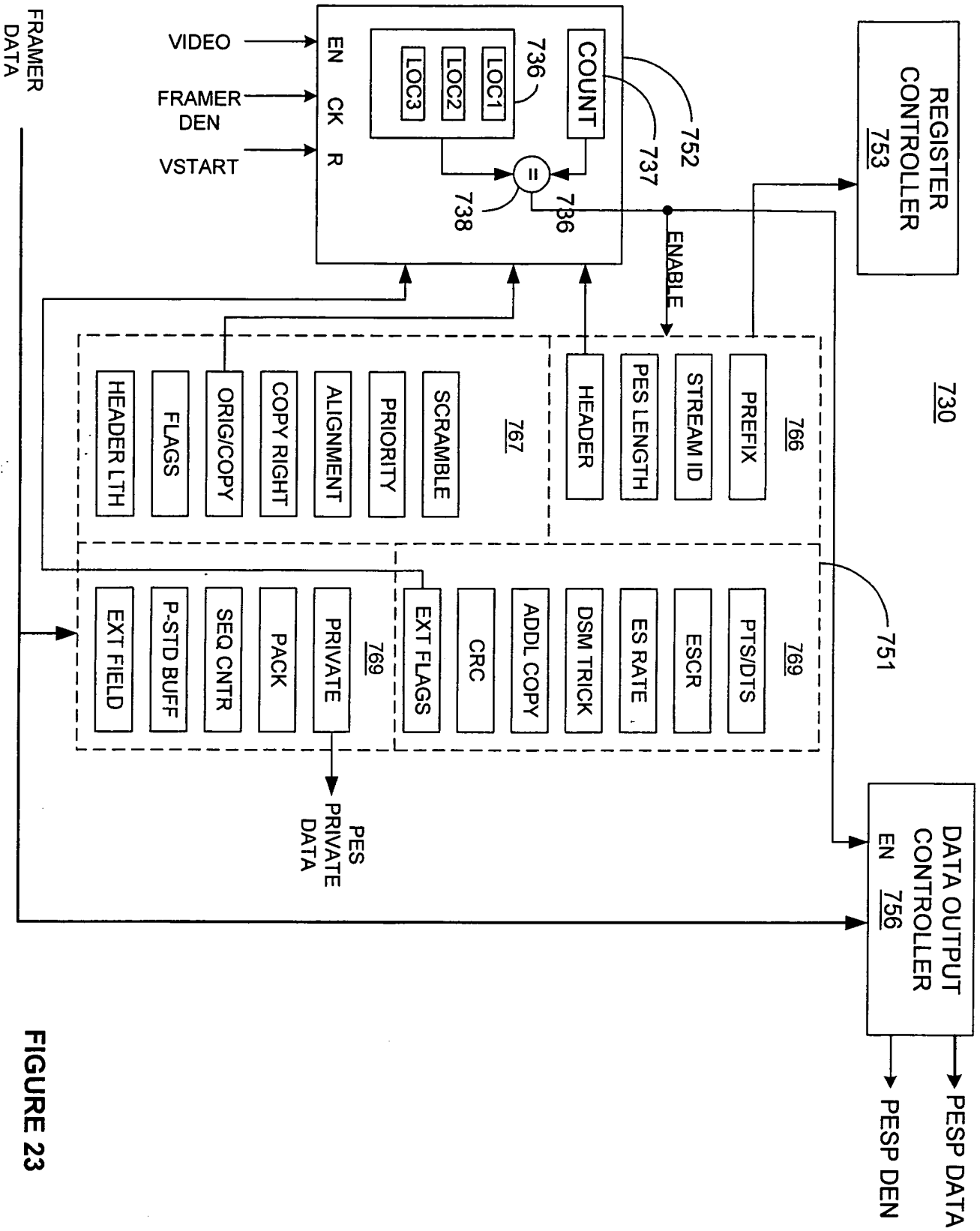


FIGURE 23

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
VideoPESHeaderAvailable	12	[1]	0	R/W	This bit is set to '1' when the new PES header of the video stream is received. WR ACC CLEAR.
VideoPESHeaderError	13	[1]	0	R/W	This bit is set to '1' after an error in the PES header is found. WR ACC CLEAR.
VideoPESDataAlignment	14	[1]	0	R/W	This bit is set to '1' when video PID has AF <i>data_alignment_flag</i> , indicating a possible start of I frame. WR ACC CLEAR.
VideoPESDSMTrickMode	15	[1]	0	R/W	Indicates that DSM data is found and extracted. WR ACC CLEAR.
VideoPESPrivateData	16	[1]	0	R/W	This bit is set to '1' when video PID has 16 bytes of private data in the PES header. WR ACC CLEAR.
VideoPESCRCErrror	17	[1]	0	R/W	This bit is set to '1' if the video CRC of the PES parser found a CRC mismatch. WR ACC CLEAR.

Figure 24

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	If set to '1' enables local sources Bit 12 – VideoPESHeaderAvailable Bit 13 – VideoPESHeaderError Bit 14 – VideoPESDataAlignment Bit 15 – VideoPESDSMTrickMode Bit 16 – VideoPESPrivateData Bit 17 – VideoPESCRCErrror Bit 18 – VideoPTSReceived Bit 19 – VideoESCRReceived

Figure 25

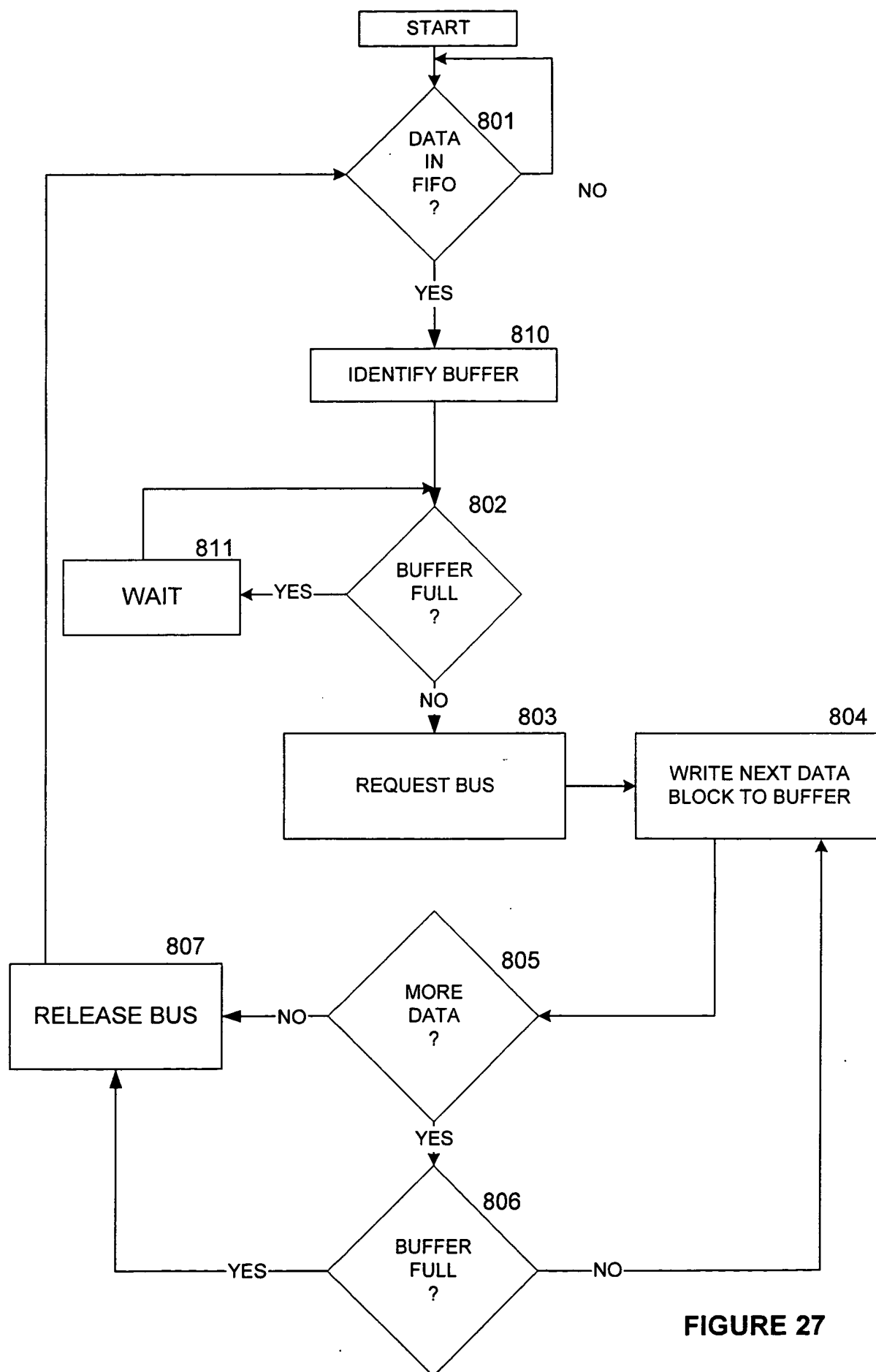


FIGURE 27

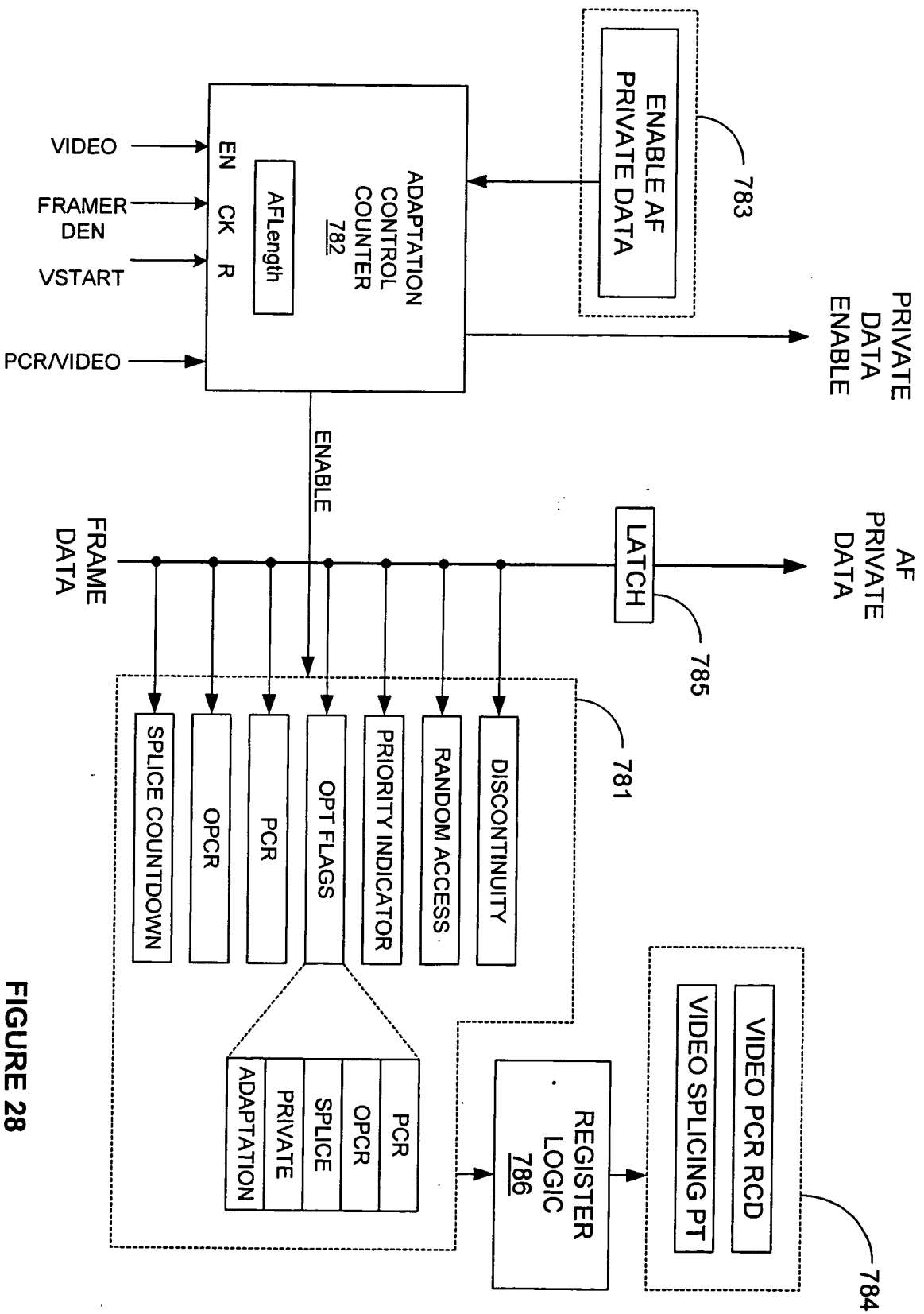


FIGURE 28

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
VideoAFPcrReceived	[1]		0	R/W	This bit is set to '1' after arrival and extraction of PCR sample in the adaptation field. WR_ACC_CLEAR.
VideoAFPcrDiscontinuity	[1]		0	R/W	This bit is set to '1' when a <i>discontinuity_indicator</i> in the adaptation field of the PCR PID is asserted. WR_ACC_CLEAR.
VideoAFDiscontinuityFlag	[1]		0	R/W	This bit is set to '1' after a <i>discontinuity_indicator_flag</i> has been asserted in the AF of video TP, indicating a discontinuity on continuity_counter. WR_ACC_CLEAR.
VideoAFRandomAccess	[1]		0	R/W	This bit is set to '1' when video PID <i>has random_access_flag</i> asserted in the AF, indicating a start of the elementary stream. WR_ACC_CLEAR.
VideoAFSplicingFlag	[1]		0	R/W	This bit is set to '1' when video PID has <i>splicing_point_flag</i> asserted in the AF, indicating approaching of the splicing point. WR_ACC_CLEAR.
VideoAFSplicingPoint	[1]		0	R/W	This bit is set to '1' when video PID has <i>splicing_point_flag</i> asserted in the AF, after splicing point occurred (splice_countdown=0). WR_ACC_CLEAR.
VideoAFPrivateData	[1]		0	R/W	This bit is set to '1' when video has AF private data. WR_ACC_CLEAR.
AFSpliceCountdown	[8]		0x00	R/W	Current splice countdown value from adaptation field of A/V packets. Modified on the fly by AF content

Figure 29

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	If set to '1' enables local sources Bit 5 – VideoAFPcrReceived Bit 6 – VideoAFPcrDiscontinuity Bit 7 – VideoAFDiscontinuityFlag Bit 8 – VideoAFRandomAccessFlag Bit 9 – VideoAFSplicingFlag Bit 10 – VideoAFSplicingPoint Bit 11 – VideoAFPrivateData

Figure 30

Transport Demultiplexer Global Control Register				
Field Name	Bits	Len	Default	Type
EnableAFPrivateData	[1]	0		R/W
AFPrivateDataBufferIndex	[4]	0		R/W
PCRIndex	[1]	0		R/W
EnableAutoSplicing	[1]	0		R/W

Figure 31

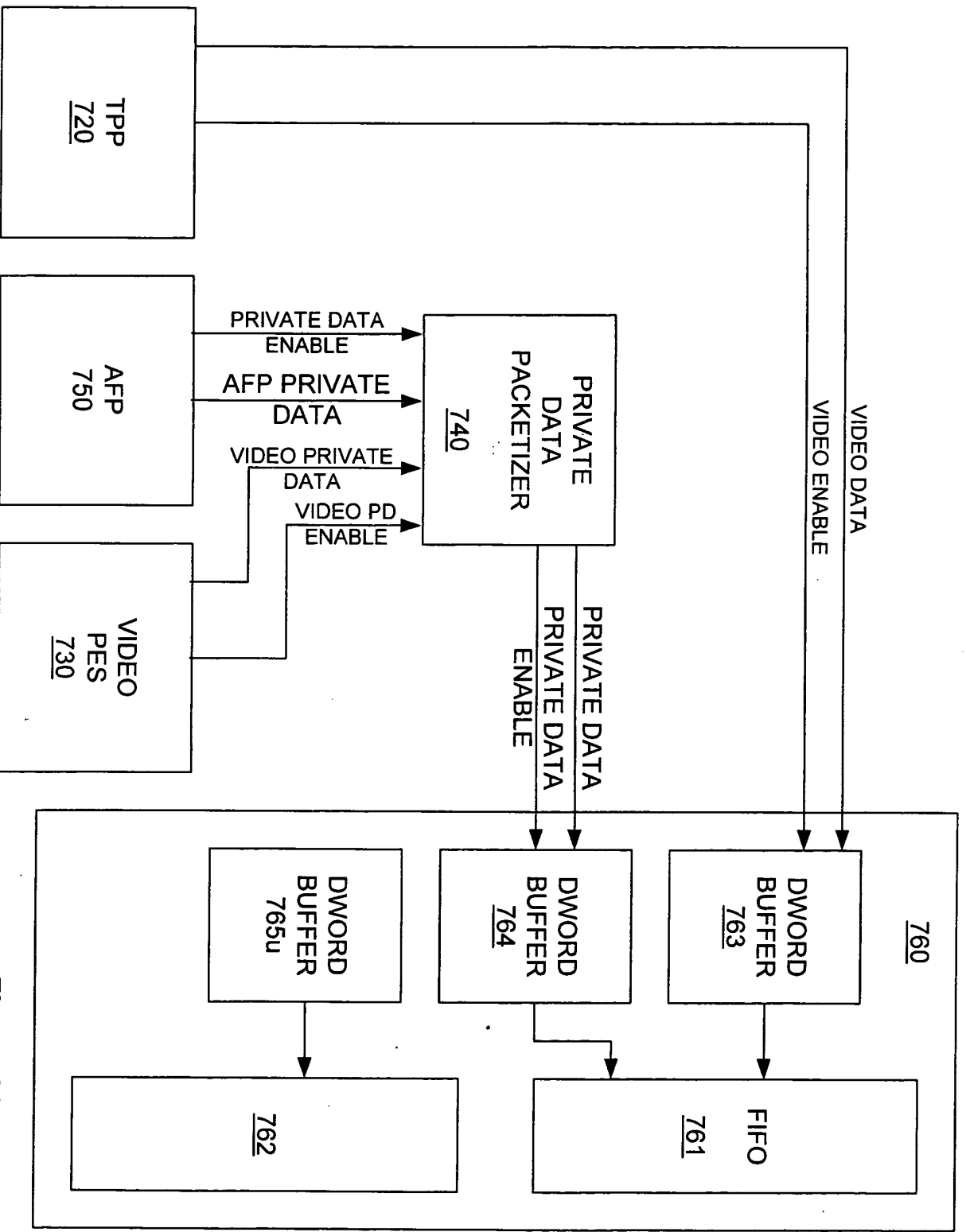


Figure 32

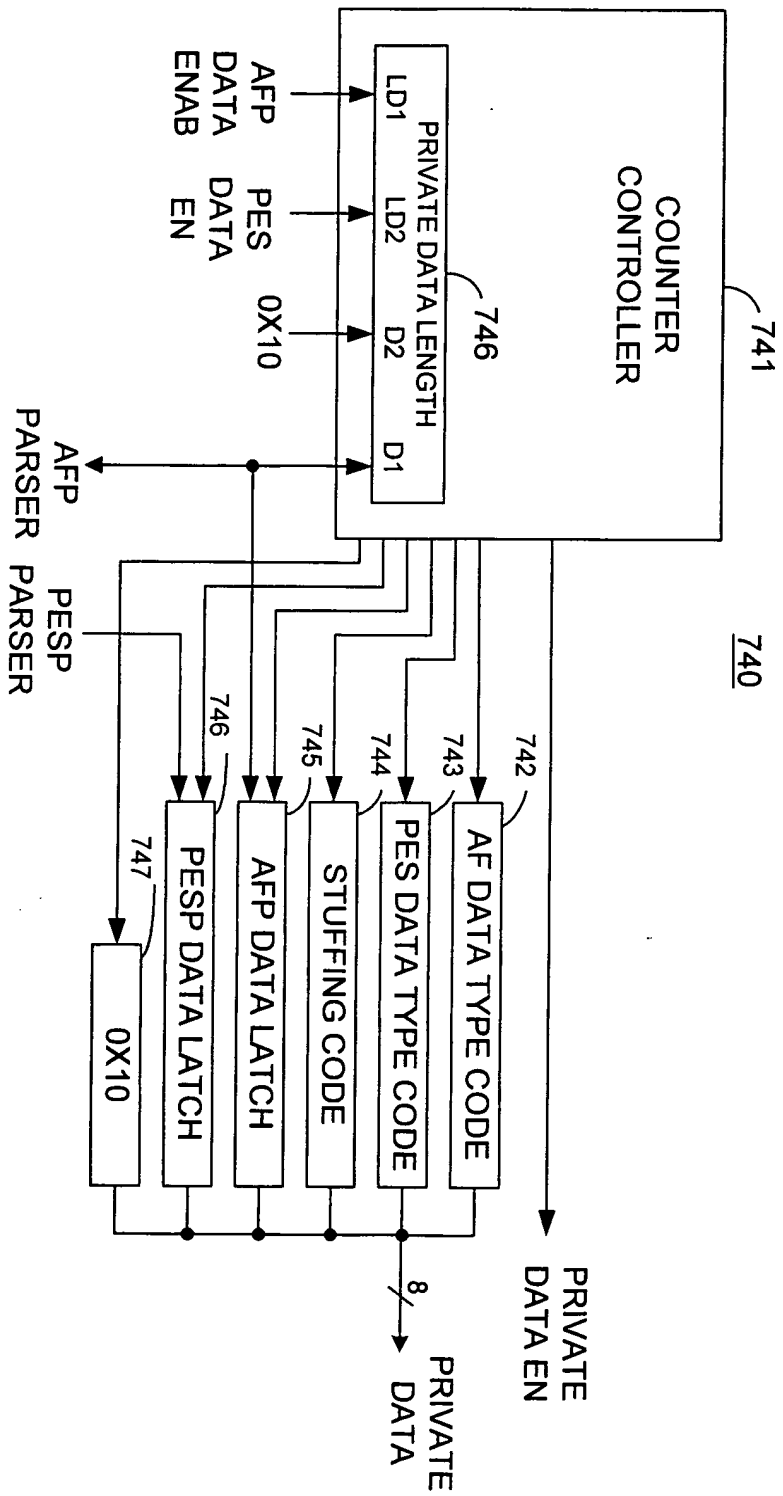


Figure 33

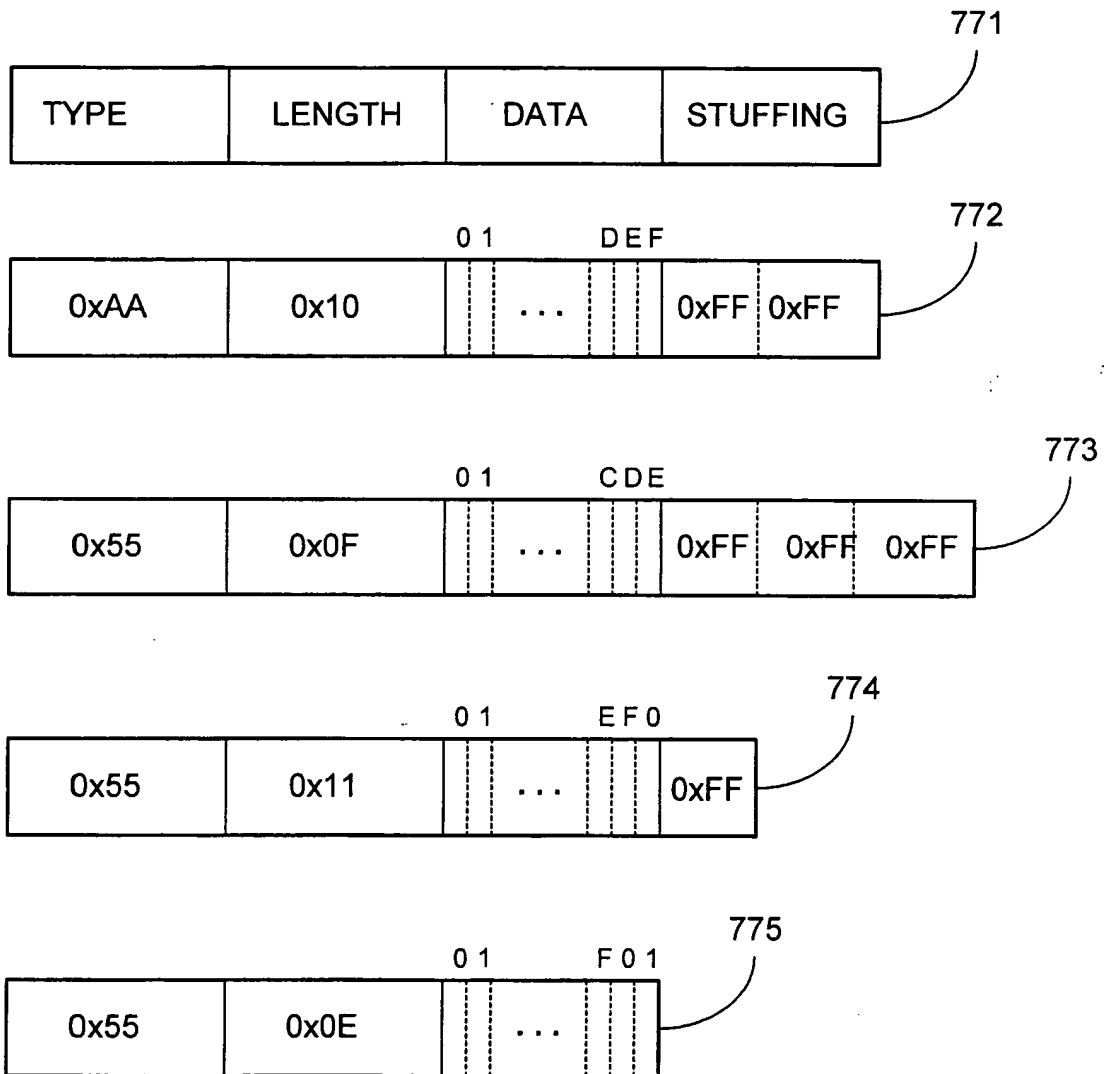


Figure 34

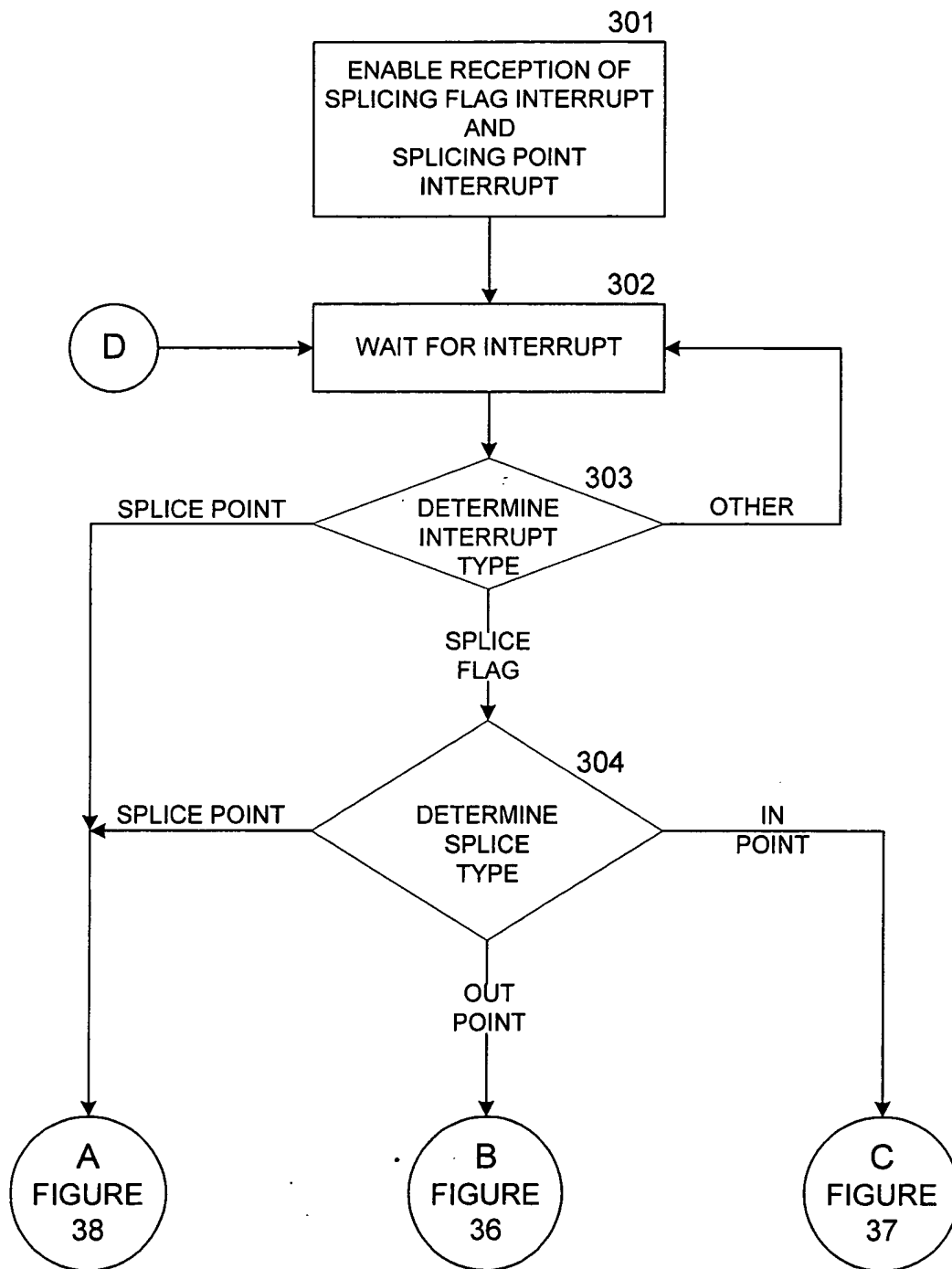


FIGURE 35

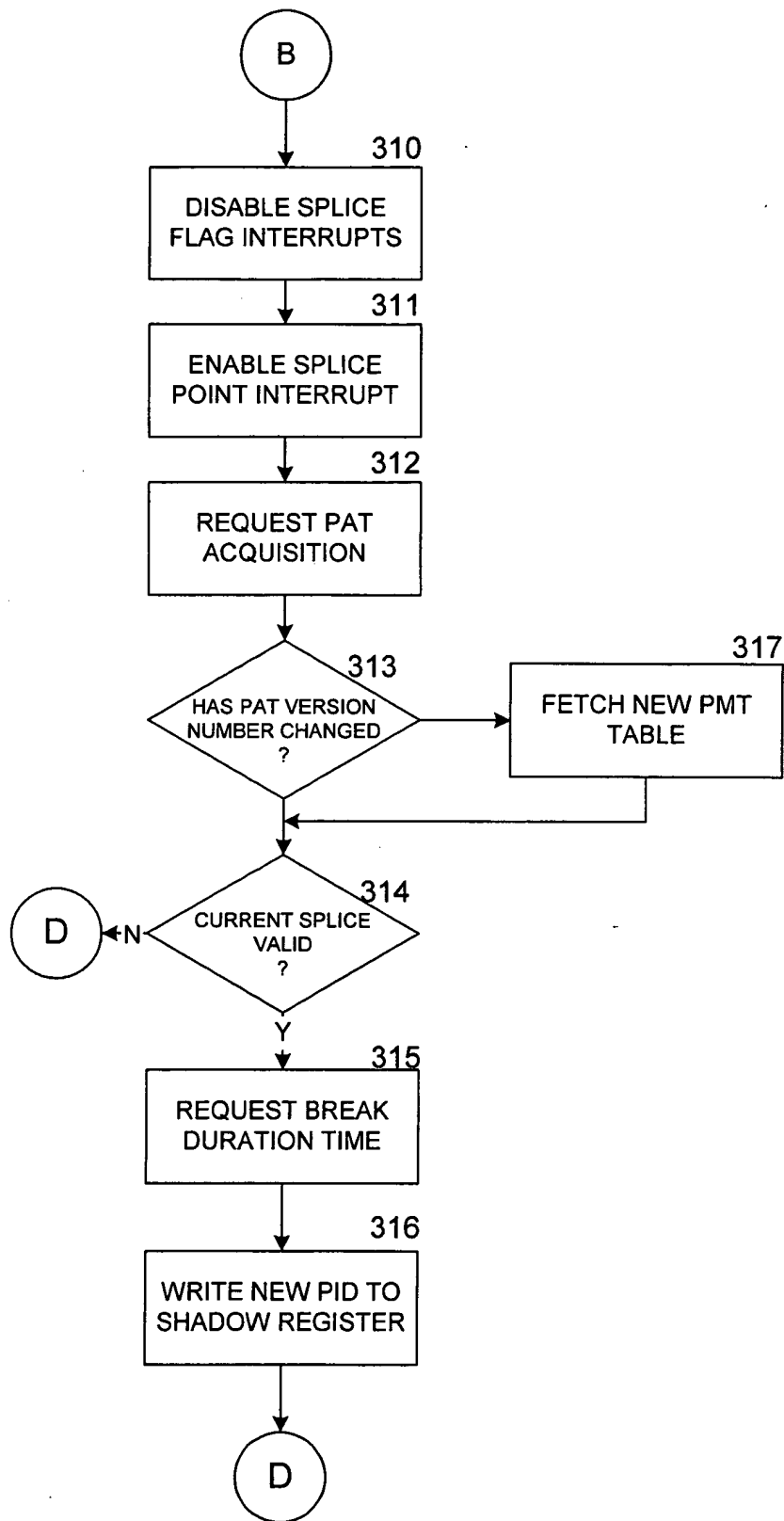


FIGURE 36

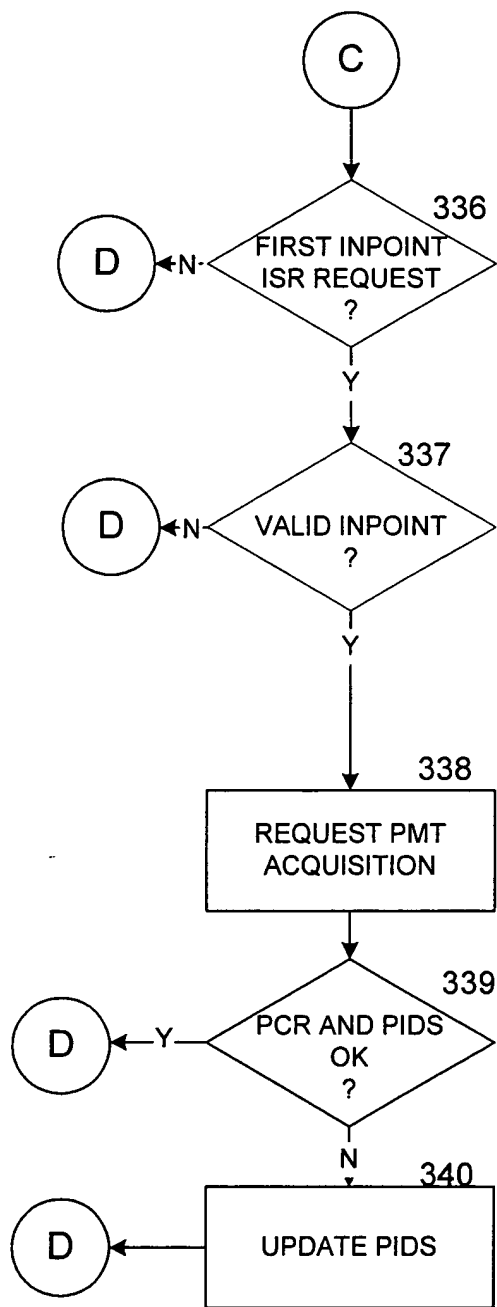


FIGURE 37

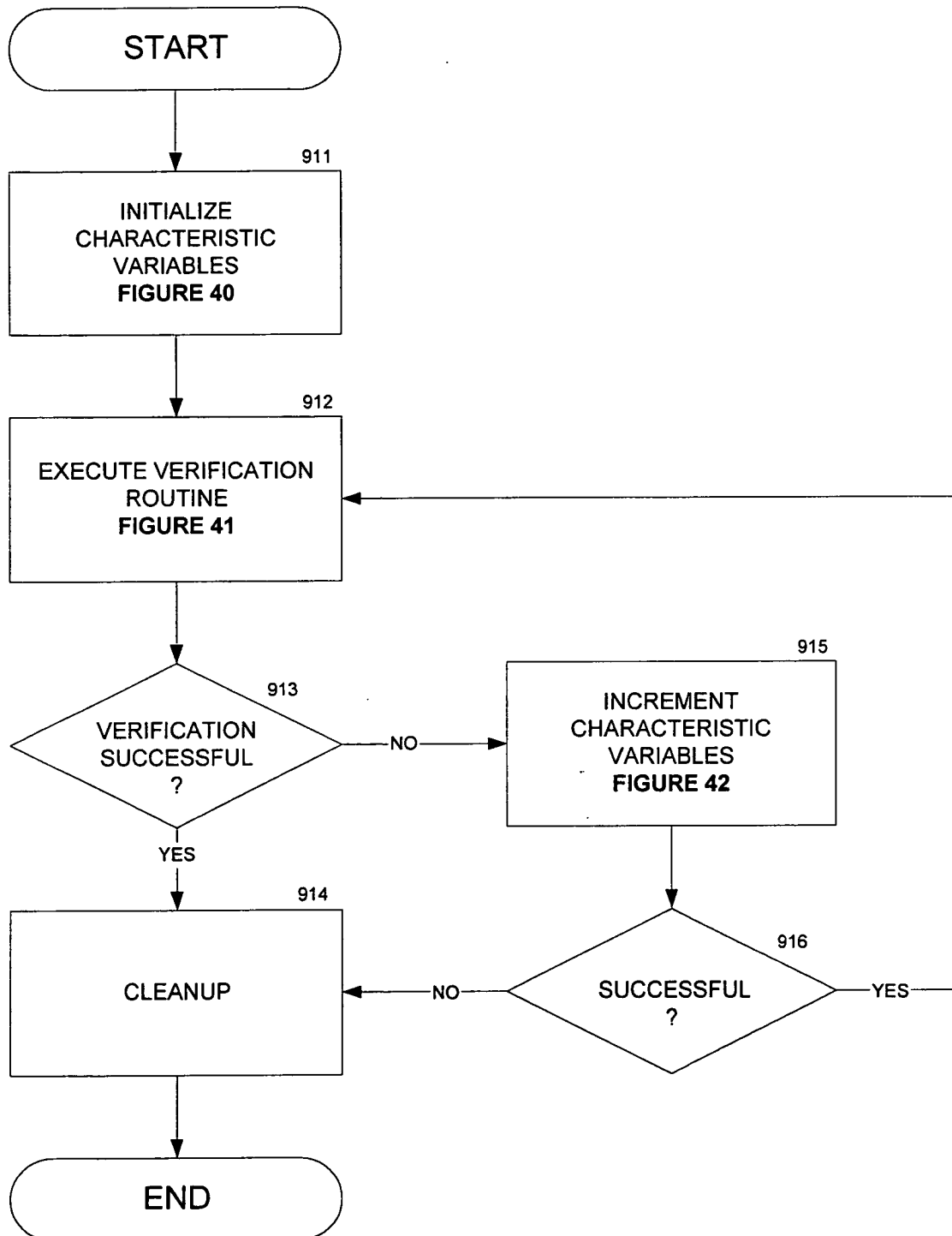


FIGURE 39

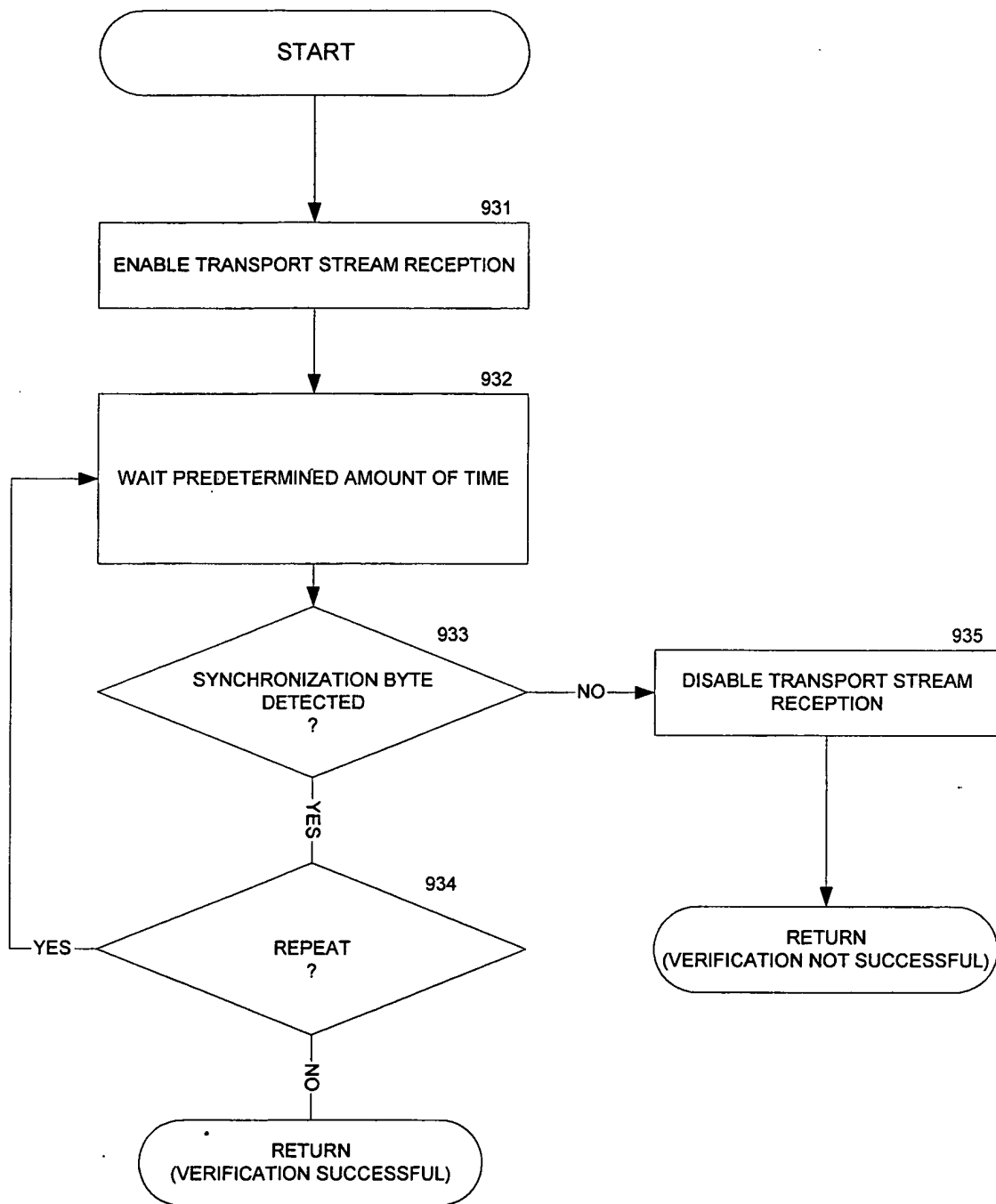


FIGURE 41

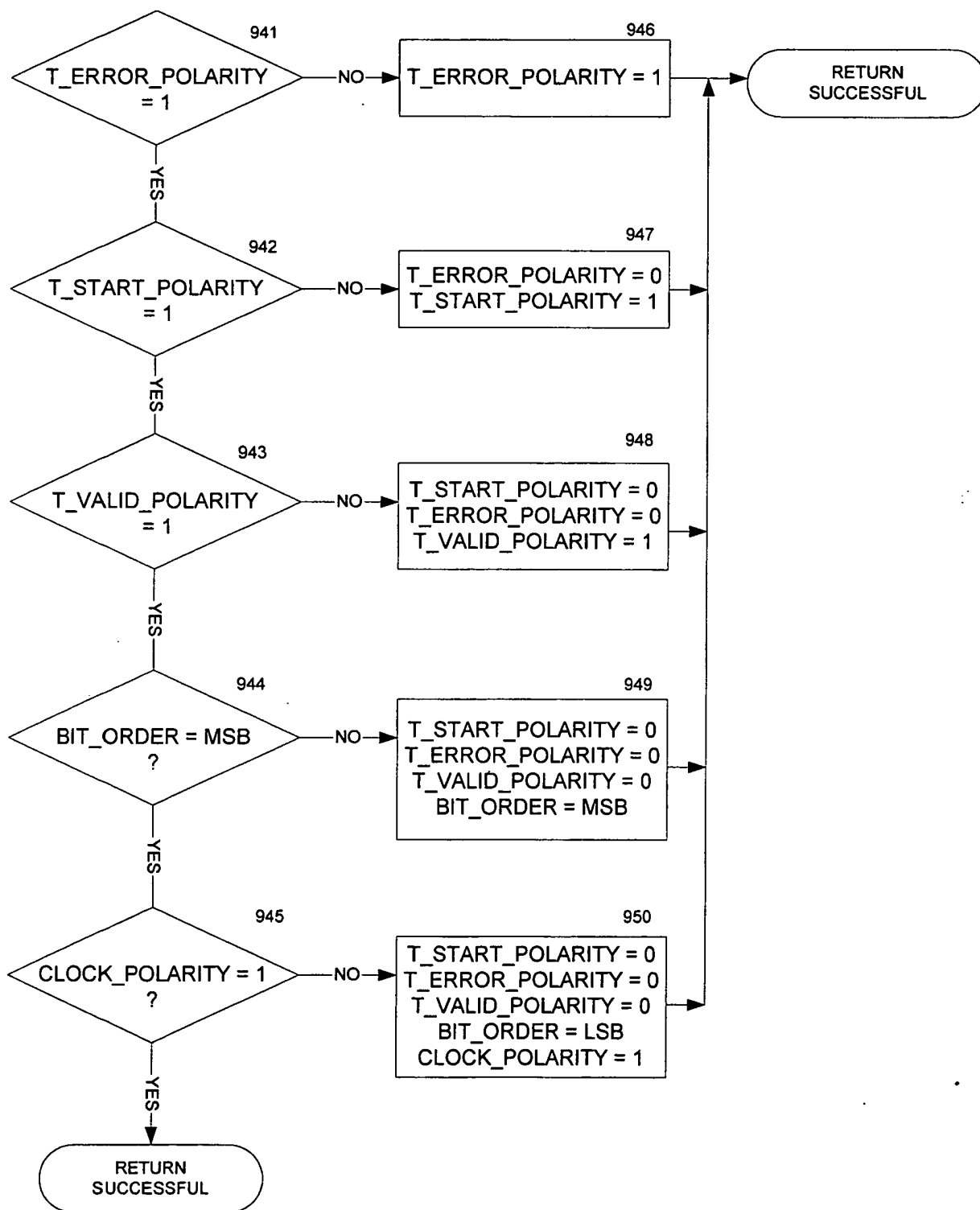


FIGURE 42

1000

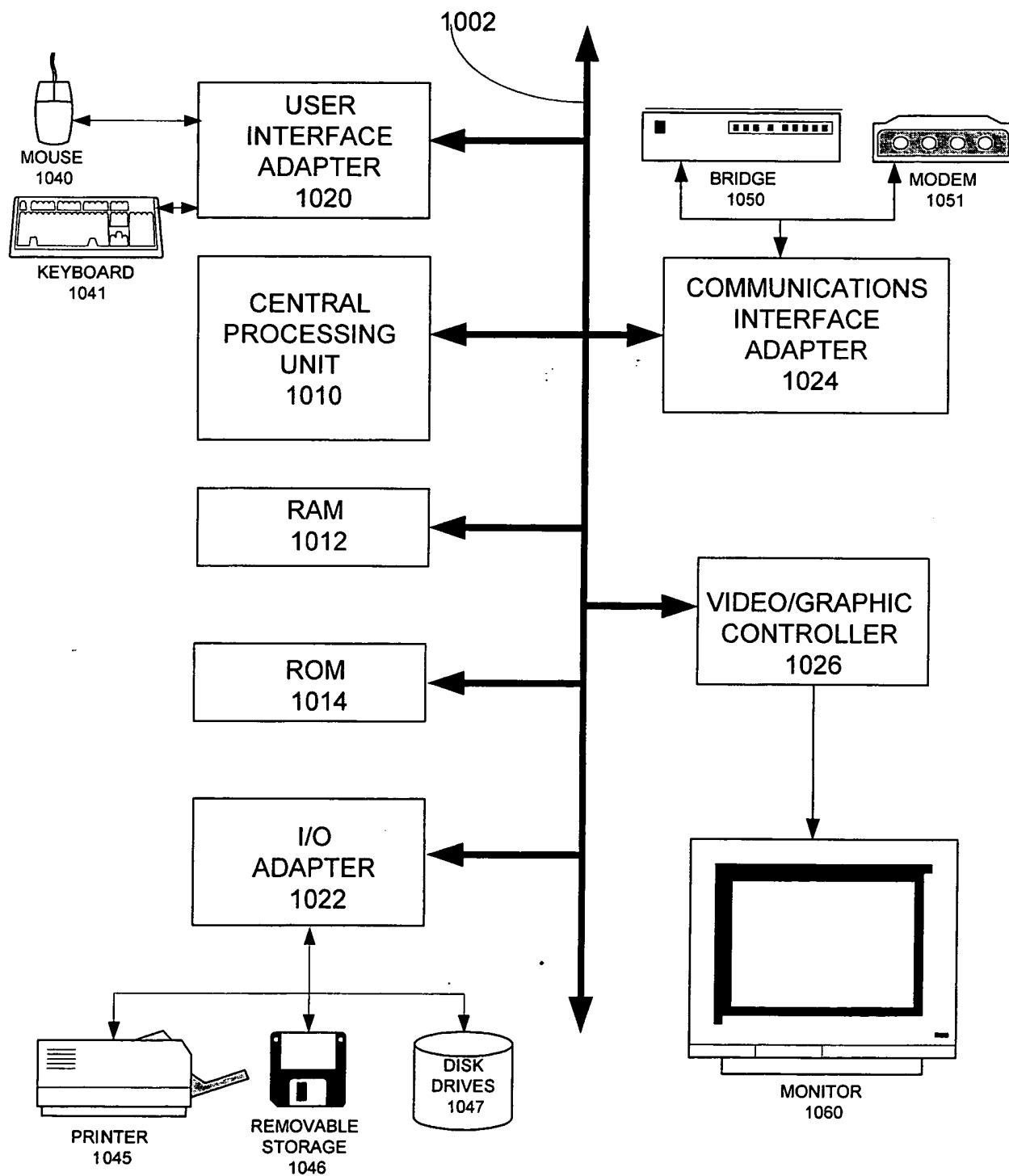


FIGURE 43